At A Glance….Insect and Disease Problems That Should Be Considered This Week.

<table>
<thead>
<tr>
<th>PEST/DISEASE/CULTURE</th>
<th>APRIL 15- APRIL 22</th>
<th>APRIL 22- –APRIL 29</th>
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</thead>
<tbody>
<tr>
<td><strong>Moth Larvae – Leafrollers, Spanworms</strong></td>
<td>Scout flower clusters for “worm” activity. Treat w/ Delegate, Altacor or Intrepid/Confirm if over 1 larva per 100 flower clusters.</td>
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<tr>
<td>CRANBERRY WEEVIL</td>
<td>Scout for adults and evidence of damage. Treat if 20% of clusters with damage or if ≥ 5 weevils/bush</td>
<td>Continue scouting for weevils</td>
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<td>Asana, Avaunt, Mustang Max</td>
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<tr>
<td>PLUM CURCULIO</td>
<td>Treat fields with a history of high PC.</td>
<td>Treat fields with a history of high PC. Do not use Rimon during bloom.</td>
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<td>Rimon</td>
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<tr>
<td>Phomopsis</td>
<td>Treat fields with a history of Phomopsis (Indar or Quash)</td>
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<tr>
<td>Mummy Berry</td>
<td>Treat fields with a history of Mummy Berry (Indar or Quash)</td>
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BLUEBERRY TWILIGHT MEETINGS

WEDNESDAY, APRIL 24, 2013
VARIETY FARMS
548 PLEASANT MILLS RD.
HAMMONTON, NJ 08037

THURSDAY, MAY 30, 2013 @ 5:30
ATLANTIC BLUEBERRY CO
7201 WEYMOUTH RD.,
HAMMONTON, NJ
FOR DIRECTIONS, CALL 609-561-8600

Cooperating Agencies: Rutgers, The State University of New Jersey; U.S. Department of Agriculture; and County Boards of Chosen Freeholders.

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To mulch or not to mulch, that is the question.

Growers who are planting blueberries on heavier soils than those found in the Pine Barrens of New Jersey realize that highbush blueberries require a soil with a high organic matter content. To that end, the standard recommendation to increase the organic matter of the blueberry planting is to put pet moss or some other composted material in the planting hole to get the blueberry plant off to a good start and to apply a mulch around the base of the plants on a yearly basis to increase the organic matter of the soil. This recommendation along with diligent pH monitoring has resulted in successful highbush blueberry plantings in non-traditional blueberry soils. The use of mulch in blueberry culture is a given on these soils, however, there are good mulches and bad mulches, advantages and disadvantages to mulch and the question is being asked, should growers in New Jersey with classic blueberry soils mulch.

Many different materials have been tested as a mulch around the world. In general, suitable mulches include grass clippings, peat moss, buckwheat hulls, shredded leaves, straw, wood chips, and sawdust. Some of these are better than others however. Peat moss and buckwheat hulls are very expensive. The use of grass clippings has occasionally resulted in phytotoxicity due to herbicides in the grass. In addition, fresh clippings can raise the temperature of the root zone as they break down. Straw can release nitrate nitrogen and decrease the ammonium form in the blueberry root zone. Lastly, leguminous hay can be bad because it releases nitrogen in the fall which can delay the blueberry plant from entering dormancy. The result is an increase in winter damage.

There can be other disadvantages to using mulch in a blueberry field. Mulch ties up Nitrogen, and often plants tested for nitrogen levels via leaf analysis show deficiencies. The use of mulch often requires an increase in fertilizer application rates. The problem comes in making a guess as to how much to increase the rate. This largely depends on the kind of mulch used and the degree to which it is decomposed. A leaf analysis should give the grower some indication of the amount needed to provide the optimum level of nitrogen. In addition to increased nitrogen costs, there are the added costs of the mulch and its’ application. The process can be mechanized however such equipment is costly and may not be cost effective for a small operation.

Other problems which have surfaced with mulching are the increased problems with mice and voles. Both find the mulch a very suitable place to live and they can damage blueberry plants.

Lastly, the problem of scab beetles increases when mulch is used, again because mulch is very suitable for their life cycle. Farms that experience Japanese, Oriental or Asiatic Beetle grub problems must realize that the problem may become worse with the use of mulch. That’s all the bad news. There are many advantages of using mulch in a blueberry planting. I have already mentioned that mulching increases the organic matter of the soil and blueberries thrive when the organic matter is high. Mulch also lowers the root zone temperature in the summer and keeps the roots warmer in the winter. Both are excellent for healthy roots. The increase in organic matter also results in an increase in soil moisture which is beneficial in times of drought.

I have been skeptical about New Jersey growers using mulch. I really couldn’t see the reason given the added costs and all the disadvantages listed above. After all, our soils have all the characteristics needed by highbush blueberries, low pH, high organic matter, well drained, etc. However, after looking at the soil analysis results over the last 10 years I realize that our soils have changed. We fertilize with 10-10-10 which contains nitrogen in the ammonium sulfate form. Years of using this form drives the pH down. So soils that were

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historically 4.5 are now 3.5. The pH must be adjusted to the correct range. In addition, I have noticed that due to our practice of rototilling the middles for weed and pest control, we have lowered the organic matter levels in the soils. The use of mulch may very well be a good practice in New Jersey. I would just warn growers to be aware that there are pluses and minuses to mulching.

Sincerely,

[Signature]
Gary C. Pyle, Ph.D.
Atlantic County Agricultural Agent

Editor - Blueberry Bulletin/GP/slp

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INSECTS
Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University
Mr. Dean Polk, IPM Agent – Fruit
Mr. Gene Rizio, IPM Program Associate – Fruit

Cranberry Weevil (CBW): Over the past 7 days 65% of beating tray samples have been positive for CBW. Of these, 21% have been at or above the threshold of 5 adults/bush. Most of the samples have been taken at wooded edges. On occasion samples may have been taken 50 or more feet into the interior. Several of these interior samples showed levels over the treatment threshold, especially where activity was excessive at the edges. Full field sprays may be needed in these cases for good results. As flower petals become fully visible CBW begins to retreat to other hosts and will no longer be a risk.

Plum Curculio (PC): The first PC adult was seen on a beating tray sample on 4/16 in Atlantic County. While they were seen earlier in experimental traps, this marks the first presence in the bushes. PC adults will be something to watch for from now through the first post pollination sprays, although no insecticides can be applied during bloom. If historically you have high populations of PC and would like to use Rimon, we recommend using Rimon between the end of this week and early next week, before you place bees in your fields.

Redbanded Leafrollers (RBLR): Adults are starting to show up on traps at low levels.

Use of Rimon against PC

We have tested a preventive PC control using Rimon (novaluron) pre-bloom. Rimon is a chitin inhibitor. It affects larval development but also has transovarial activity. Thus, eggs can become sterile when adults ingest Rimon-treated plants. Rimon does not control adults; thus, you might still need a post-bloom application. Rimon needs to be ingested by adults. It needs to be applied right before bloom. Rimon does not have direct toxicity to adult bees but if it gets on pollen it can be carried to the hive and affect the brood. Based on our data, 25 oz/A of Rimon at 25 gal/A works best. Rimon applied to young foliage causes phytotoxicity. Based on our observations plants grow out of this but growers should be aware of these effects.